

## CHAPTER FIVE Travel-Demand Management Element

Continued economic and population growth in the Bay Area and Alameda County will place an increasing demand on the region's transportation system. Other chapters of Alameda County's Congestion Management Program focus on providing a sufficient supply of transportation facilities and services to meet projected demand. This chapter, on the other hand, focuses on "demand-related" strategies that are designed to reduce the need for new highway facilities over the long term and to make the most efficient possible use of existing facilities. This element also incorporates strategies to integrate air quality planning requirements with transportation planning and programming.

### CONTINUING DEVELOPMENT

The establishment of regionwide travel-demand management programs continues to evolve. This element takes steps toward tailoring such programs to the needs of Alameda County.

State law<sup>1</sup> requires that the trip-reduction and Travel-Demand Management (TDM) Element:

- promote alternative transportation methods, including but not limited to carpools, vanpools, transit, bicycles and park-and-ride lots;
- promote improvements in the balance between jobs and housing;
- promote other strategies, including but not limited to flexible work hours, telecommuting and parking management programs; and
- consider parking cash-out programs.

A parking cash-out program is defined as an employer-funded program under which an employer offers to provide a cash allowance to an employee equivalent to the parking subsidy that the employer would otherwise pay to provide the employee with a parking space.<sup>2</sup> "Parking subsidy" means the difference between the out-of-pocket amount paid by an employer on a regular basis in order to secure the availability of an employee parking space not owned by the employer and the price, if any, charged to an employee for use of that space. Furthermore, the parking cash-out programs apply to employers of 50 or more persons in air basins designated as "non-attainment" areas.<sup>3</sup>

The CMA and Bay Area Air Quality Management District (BAAQMD) are required to coordinate the development of trip-reduction responsibilities and avoid duplication of responsibilities between agencies. However, cities and other local jurisdictions can establish their own travel-demand management programs

<sup>1</sup> California Government Code Section 65089(b)(3)

<sup>2</sup> Section 65088.1 of the Government Code and Section 43845 of the Health and Safety Code

<sup>3</sup> Section 43845 of the Health and Safety Code

that go beyond what the CMA and BAAQMD develop, but they cannot require employers to implement an employee trip-reduction program unless the program is required by federal law.<sup>4</sup>

## ALTERNATIVE TRANSPORTATION METHODS

Both the public and private sectors should encourage the use of alternatives to the single-occupant automobile. By reducing the number of vehicle trips during commute periods, congestion can be reduced and vehicle-miles traveled under congested conditions can be decreased, thereby improving air quality.

Switching to buses or trains, increasing the number of occupants in each vehicle (autos, vans, or buses), or increasing the number of people walking or bicycling will improve the efficiency of the transportation system, particularly during the system's peak demand periods.

The *Countywide Transportation Plan* recognizes the importance of alternative modes, especially transit, in the county's transportation system. One of the goals of the plan is to improve transit access and increase transit use. In order to accomplish this goal, the plan places a priority on securing a reliable source of funding for transit investment and operations.

The following policies and programs, undertaken cooperatively by local government, the CMA, MTC, BAAQMD, Caltrans and the private sector, are intended to: promote the use of transit, carpools, vanpools; increase average vehicle occupancy; encourage bicycling and walking as forms of transportation; and encourage telecommuting to reduce commute travel demand.

## MAKING TDM INTEGRAL TO CONGESTION MANAGEMENT

Historically, travel-demand management has been isolated from the planning and programming mainstream. It has not been an integral element of plans for capital improvement or system management. Nor have individual travel-demand management projects been appraised from a systems or corridor point of view. Figure 10 shows how travel-demand management activities can be conceptualized as an integral element of an overall strategy of congestion management. They overlap with transportation system management in coordinated implementation of high-occupancy-vehicle lanes and transit operating subsidies; and overlaps with capital improvements with investment in bicycle and pedestrian facilities, transit capital facilities and construction of high-occupancy-vehicle lanes as well as operational improvements to freeways and roadways.

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<sup>4</sup> Section 40929, added to the Health and Safety Code by SB 437 (Lewis) states: 40929 (a) Notwithstanding Section 40454, 40457, 40717, 40717.1, or 407717.5, or any other provision of law, a district, congestion management agency, as defined in subdivision (b) of Section 65099.1 of the Government Code, or any other public agency shall not require an employer to implement an employee trip reduction program unless the program is expressly required by federal law and the elimination of the program will result in the imposition of federal sanctions, including, but not limited to, the loss of federal funds for transportation purposes. (b) Nothing in this section shall preclude a public agency from regulating indirect sources in any manner that is not specifically prohibited by this section, where otherwise authorized by law.

## A BALANCED TRAVEL-DEMAND MANAGEMENT PROGRAM

A balanced program requires actions that would be undertaken by local jurisdictions, the CMA, MTC, BAAQMD, Caltrans and local transit agencies.

The following policies represent a framework of realistic expectations for proposed actions that should be taken by the CMA and local governments as well as complementary actions that should be taken by regional and state agencies. The basic principle of the program is that travel-demand management activities should be effectively integrated with the CMP so that capital investment, system management and demand management can produce results that make a cumulative contribution to the CMA's efforts to contain congestion, provide alternatives to solo driving and sustain progress toward clean air.

### Local Governments

Local governments should adopt site-design guidelines that enhance transit, pedestrian and bicycle access. They should also work with transit agencies to establish bus shelters which display easily understood information about routes and schedules.

### The CMA

The CMP should provide a framework for integrating demand management, system management and capital investment in an overall strategy for containing congestion, reducing vehicular emissions and providing attractive alternatives to solo driving.

The CMA's funding policies should encourage multi-jurisdictional projects such as SMART Corridors to promote seamless operations across jurisdictional boundaries, a multimodal approach to system management and system efficiency and safety.

### MTC, CMA and BAAQMD

The CMA should seek maximum flexibility for providing its share of ridesharing funding. Historically, the CMA and MTC have funded the regional rideshare program.

### Transit Agencies

Transit operators should continue to work with each other to develop cooperative plans for the coordination of line-haul and feeder services.

Transit agencies should work with Caltrans to develop cooperative plans for high-occupancy-vehicle-lane express bus service and with local governments to establish bus shelters that include clear route and schedule information.

## TDM PROGRAM

The travel-demand management program as shown in Table 11 includes four elements:

- a Required Program, which includes those actions local government *must* take in order to comply with the CMP;
- a Countywide Program, which includes those actions the CMA will take to support and supplement local efforts;
- a Regional Program, which includes those actions state and regional authorities should take to support travel-demand management programs areawide; and
- the Comprehensive Program includes all of the actions above, plus others that can be recommended for employers on an entirely voluntary basis.

Funding sources, lead agency and other partners are provided for each element. Taken together, the program represents a fiscally realistic program that would effectively complement the CMA's overall Congestion Management Program.

### Required Program

The Required Program requires that local jurisdictions adopt and implement guidelines for site design that enhance transit, pedestrian and bicycle access. This requirement can be satisfied by a local jurisdiction through:

- adoption and implementation of design strategies for encouraging alternatives to auto use through local development review prepared by ABAG and the BAAQMD.
- adoption and implementation of new design guidelines that meet the individual needs of the local jurisdiction and maintain the intent of the Travel-Demand Management Element to reduce the dependence on single-occupant vehicles.
- demonstration that existing policies meet the intent of the Travel-Demand Management Element to reduce the dependence on single-occupant vehicles.

In order to ensure consistency among all jurisdictions, a Travel-Demand Management Checklist was prepared identifying components that should be included in local design guidelines (Appendix D). The checklist was approved by the Board upon recommendation from ACTAC.

Local jurisdictions are also required to implement capital improvements that contribute to congestion management and emissions reduction. This requirement can be satisfied by participation in the state Transportation Fund for Clean Air and federal Surface Transportation Program and CMAQ programs. The Capital Improvement Program incorporates numerous project types and programs that are identified in the Transportation Control Measures Plan. The TCMs are listed in Appendix E.

### Countywide Program

The Countywide Program includes actions by the CMA to support the efforts of local jurisdictions. Financial incentives such as the Parking Cash-out Program, the Guaranteed Ride Home program, and support of telecommuting have been undertaken by the CMA. In order to further support alternative methods of transportation the CMA will embark on the Dynamic Ridesharing Pilot Project. The program will examine if "instant carpool matching" is acceptable to the public and cost effective.

### Regional Program

The Regional Program includes actions by MTC, BAAQMD and Caltrans to meet areawide needs. The regional program focuses primarily on financial support for those activities that ensure coordinated transit, high-occupancy-vehicle utilization, development and/or maintenance of park and ride lots, implementation of ramp metering and arterial improvements, Americans with Disabilities Act, and bicycle and pedestrian improvements.

### Comprehensive Program

In recognition that the private sector also has a role in travel-demand management, elements of the Comprehensive Program includes those actions that employers may take on a voluntary basis to promote and encourage alternative modes of travel.

**Table 11 — Alameda County TDM Program**

Elements	Funding Sources	Lead Agency	Other Partners
<b>The Required Program</b>			
This program includes those actions local government must take to comply with the CMP, namely, the implementation of:	NA	Local	Planners and developers
Site-design guidelines that enhance transit/pedestrian/bicycle access	TFCA, TSM, STP and FCR	Local, CMA	Neighboring cities, management and transit agency, cyclists
Capitol improvements that contribute to congestion relief and emissions reduction			
<b>The Countywide Program</b>			
This Program includes those actions the CMA will take to support and supplement the efforts of local government:			
Guaranteed ride home	TFCA	CMA	Taxis, other providers,
Dynamic Ridesharing Pilot Project	FHWA	CMA	BART, MTC, Environ. Def.

Elements	Funding Sources	Lead Agency	Other Partners
Financial incentives for ridesharing and transit use	TBD	CMA	Local, employers
Telecommuting program	TBD	CMA (ABAG)	Local, employers
Support a long-term, stable and reliable source of funding for transit investment and operations	TBD	MTC, transit operators, CMA	Local

### The Regional Program

This program includes those actions state and regional authorities should take to meet areawide needs:

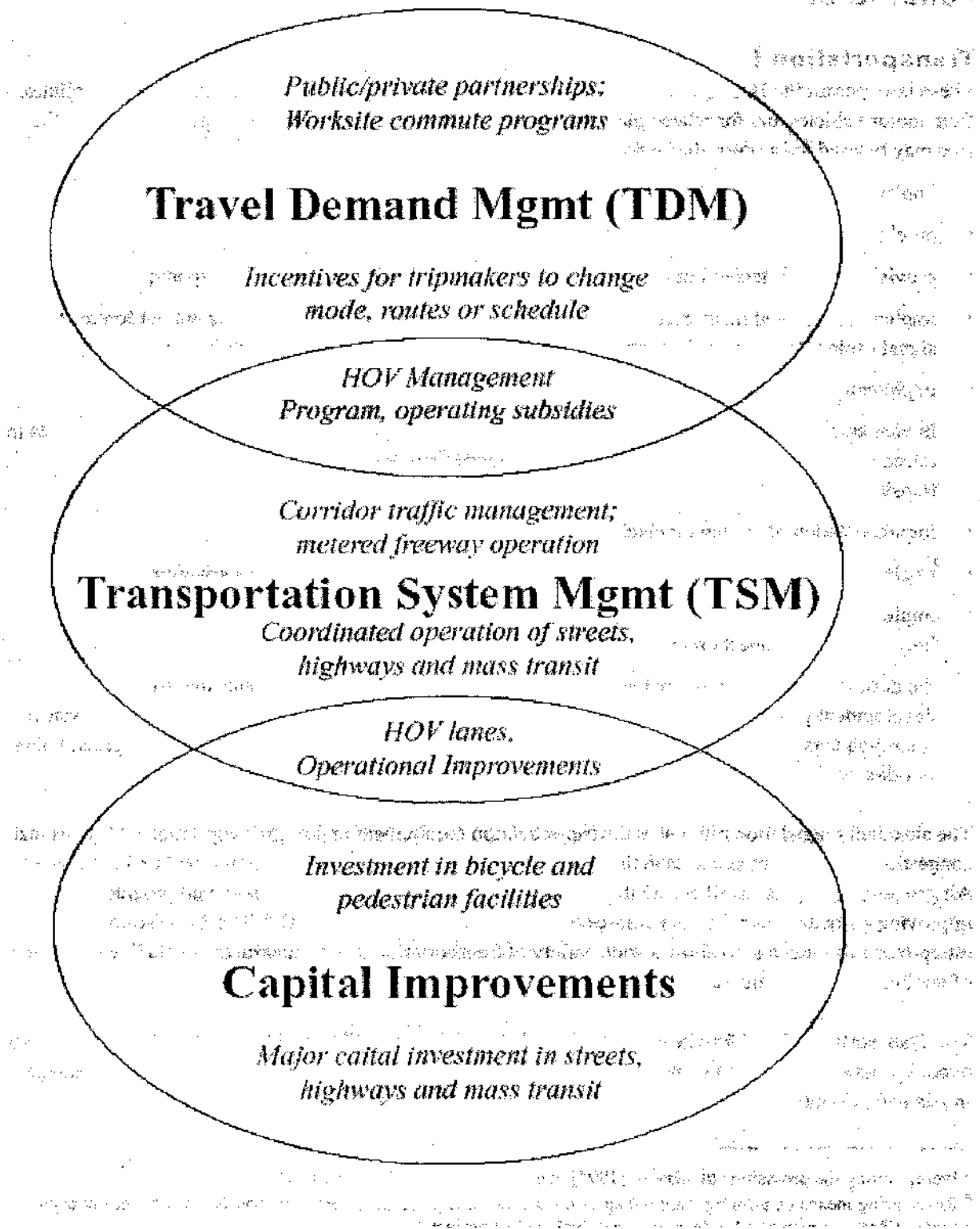
Cooperative funding for regional ride-matching	TFCA, TDA Planning	CMA/AQMD/MTC	Employers
Regional ride home (to complement county program)	TFCA	MTC	CMA
Funding to implement transit coordination	STA, STP, TFCA	MTC	Transit operators
Funding for coordinated implementation of high-occupancy-vehicle lanes, express bus service and park-and-ride facilities	CR, TSM, STP, STA	Caltrans/MTC	Transit operators, CMA, local
Cooperative implementation of ramp metering and arterial improvements	TSM, STP	Caltrans	MTC, CMA

### The Comprehensive Program

This program includes all of the actions above, plus the voluntary efforts of employers other than city/county:

Support Employer Transportation Managers Network	TFCA	Local	Local, employers
Transportation information for new employees	Private	Employers	Voluntary
Preferential parking for carpools, bicycles	Private	Employers	Voluntary
Flexible working hours	Private	Employers	Voluntary
Implementation of shuttle services where needed	TFCA	Employers/Local	Voluntary by cities, employers

Figure 10 — Travel-Demand Management Strategy for Congestion Management



## FUNDING OF TRIP-REDUCTION PROGRAMS

### Transportation for Clean Air Funds<sup>5</sup>

These laws permit the BAAQMD to collect a fee (up to \$4 per vehicle per year) for reducing air pollution from motor vehicles and for related planning and programs. The bill specifies the types of programs the fees may be used for as described below:

- implementation of ridesharing<sup>6</sup> programs;
- purchase or lease of clean-fuel buses for school districts and transit operators;
- provision of local feeder bus or shuttle service to rail and ferry stations and to airports;
- implementation and maintenance of local arterial traffic management, including but not limited to signal timing, transit signal preemption, bus-stop relocation and "smart streets";
- implementation of rail-bus integration and regional transit information systems;
- implementation of low-emission and zero-emission vehicle programs and of demonstration projects in telecommuting (with some restrictions) and in congestion pricing of highways, bridges and public transit.
- implementation of smoking-vehicles program;
- implementation of an automobile buy-back scrappage program operated by a governmental agency;
- implementation of bicycle facility improvement projects that are included in an adopted countywide bicycle plan or congestion management program; and
- the design and construction by local public agencies of physical improvements that support development projects that achieve motor-vehicle emission reductions. The projects and the physical improvements shall be identified in an approved area-specific plan, redevelopment plan, general plan or other similar plan.

The air-quality legislation references the trip-reduction requirement in the CMP legislation and states that congestion management agencies in the Bay Area that are designated as Transportation Fund for Clean Air program managers "shall ensure that those funds are expended as part of an overall program for improving air quality and for the purposes of this chapter (the CMP Statute)." The Air District has interpreted this language to allow a wide variety of transportation control measures—including expansion of eligible transit, rail and ferry projects—to be eligible for funding.

The Transportation Fund for Clean Air requires the Air District to allocate 40 percent of the revenue to an overall program manager(s) in each county. The CMA has been designated the overall program manager in Alameda County. The CMA has developed a program that allocates the funds as follows:

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<sup>5</sup> Incorporating the provisions of AB 414 [1995] and AB 434 [Sher; Statutes of 1991]

<sup>6</sup> Ridesharing means carpooling, vanpooling or transit. Other trip-reduction projects, consistent with the county's adopted CMP, are also eligible (e.g., police bicycle patrol projects).



- a maximum of five percent of the funds for program implementation and administration.
- seventy percent of the remaining funds to be allocated to the cities/county based on population with a minimum of \$10,000 to each jurisdiction; city/county population will be updated annually based on State Department of Finance estimates.
- thirty percent of the remaining funds allocated to transit related projects; all eligible applicants may apply for these funds for transit related projects.
- a city or the county, with approval from the CMA Board, may choose to roll its annual "70 percent" allocation into a future program year; any 70 percent funds not used by a city/county will be added to the available funds for the current year discretionary program.
- with approval from the CMA Board, a local jurisdiction may request programming of a multi-year project using its current and projected future year share of the 70 percent funds.

### **Surface Transportation Program**

Surface Transportation Program funds are administered by MTC via the CMA. For travel-demand management purposes, the following projects could be eligible for Surface Transportation Program funds: highway projects including high-occupancy-vehicle lanes, signalization, transit projects, and bike and pedestrian projects.

### **Congestion Mitigation and Air Quality Improvement Program**

Congestion Mitigation and Air Quality funds are administered by MTC via the CMA. For travel-demand management purposes, projects that are eligible include those types of transportation projects that improve air quality, such as ridesharing, bicycle and pedestrian projects.

### **PARKING CASH-OUT DEMONSTRATION PROGRAMS**

A demonstration financial incentives program for public agencies was implemented in Alameda County in 1997 for one year. The program was implemented in four different areas of Alameda County—in the cities of Pleasanton, Oakland and Albany, and Alameda County—either for all employees or targeted work sites. In addition, in 1995 a similar program was implemented at the Lawrence Berkeley National Laboratory for a one-year period. The results for this program are not presented separately in this CMP, but are summarized in previous CMPs.

The purpose of the demonstrations was to provide opportunity for employees to choose alternative ways to get to work other than driving alone, to study the effectiveness of the program and to find out whether increasing the incentives available made a difference in program participation. The ultimate goal was to reduce single-occupant vehicle use.

The results showed that there is potential for changing commute choices if continuous sources of revenues could be found. Based on the results of these demonstration programs and guidelines developed by the California Air Resources Board, policies will be developed to guide the CMA's implementation of this component of the CMP. Although this section of the CMP describes programs that are funded by

Transportation Funds for Clean Air and the state Petroleum Violation Escrow Account, it should be noted that other jurisdictions in Alameda County provide transit subsidies or other types of financial incentives to their employees (e.g., city of Alameda, city of Pleasanton, city of Hayward STRIDES Program). More information on the results of the program and its implementation are available from the CMA.

### **Description and Results of 1997 Program**

The cities of Albany, Oakland, and Pleasanton and Alameda County offered financial incentives ranging from \$1.50 per day to \$2.50 per day or Commuter Check transit vouchers to encourage employees to use an alternative to driving alone to work. All sites were located within one-quarter mile of transit and offered connections to BART. Free parking was available at all sites except three of the four Alameda County sites. Parking was at capacity at all sites except Albany. All agencies offered some travel-demand management-type element to encourage employees to not drive alone (e.g., flexible work hours, commuter matching services, Commuter Checks, telecommuting, bikes on-site), but only the city of Pleasanton offered a comprehensive travel-demand management program that included all of the above as well as a financial incentive.

### **Financial Incentive Program Results**

The results showed that a minimal financial incentive encouraged people to carpool, take transit, bicycle or walk to work instead of driving alone. As shown in Table 12, 16 to 20 percent of the Albany, Oakland and Alameda County participants changed their commute behavior after the implementation of the program. This is a three- to eight-fold increase over baseline participation. (It should be noted that all jurisdictions had some employees using alternative modes before the inception of the program, which ranged from three to five percent for the three agencies that did not have established programs and 40 percent for Pleasanton, which did.)

Pleasanton was the exception; they actually showed a decrease in participation for this study year. But overall, Pleasanton's program can be considered a success based on the increase in employee participation since the program started in 1993. Employee participation in 1999 was seven times more than in 1993, and a 100 percent increase has been observed between 1997 and 1999. And Pleasanton's program had a higher percentage of employee participation with their existing financial incentive of \$1.50 per day and a comprehensive travel-demand management program than the other agencies realized with financial incentives alone, which could indicate that the level of participation can be doubled with a more comprehensive travel-demand management program.

### **Small Investment Provides Good Return**

The program resulted in savings in number of commute trips, gasoline and fuel costs as shown in Table 13. Between 4,900 and 20,625 commute trips per year were saved, depending on the location. This corresponds to an annual fuel cost savings of \$4,500 to around \$17,000 for each agency participating. Converted into personal gain for each participant, the total annual benefit per participant including fuel costs and amount paid to each participant ranged from approximately \$270 to \$400 per year per participant. This would appear to indicate that, with a small investment, a lot is gained in terms of reducing congestion and stress and improving air quality.

## **Transit Accessibility and Effectiveness of Financial Incentives**

Access to transit has an impact on the success of financial incentive programs. Examples in three of the jurisdictions appear to support this conclusion. Albany observed that the majority of participants rode their bicycle, walked or took short transit trips. Comments received from Albany employees indicated that longer distance trips required too many transfers. Faced with available free parking and too many transfers, these employees chose to drive alone.

With the opening of the Dublin/Pleasanton BART station in 1997 and ACE Commuter Rail in 1998, Pleasanton observed a substantial increase in participants in their program using these transit services instead of their cars to get to work.

Oakland worked with AC Transit to relocate a bus stop in front of the site. While it is not certain if the increased participation at the Oakland site was due to the bus stop relocation or the financial incentives program or both, there was an increase in participation with program implementation.

## **What if 20 Percent of All Alameda County Employees Participated?**

In order to explore the full effectiveness of financial incentive programs, staff asked the question, "What if 20 percent of all Alameda County employees participated in financial incentive programs?" Using reasonable assumptions for number of employees and gas costs and applying what was learned from the 1997 demonstration program, 145,000 employees could be expected to participate in a financial incentives program in Alameda County at an annual cost of \$40 million to 60 million. However, 24 million gallons of fuel would be saved at savings of about \$44 million dollars. Further, applying the BAAQMD's guidelines for estimating emissions reduction, such participation would reduce pollution by more than 200,000 tons a year, and daily vehicle commute trips could be reduced by about 10 percent.

## **What Can be Done Next?**

Based on the results of the demonstration program, financial incentives programs appear to have potential for reducing congestion and improving air quality for a small investment if it could become funded through a continuous revenue stream. The CMA is not able to mandate these types of programs, so implementation is encouraged in the following ways.

### **Public Agencies**

For public agencies, communities are encouraged to internalize the incentive program through the General Fund or other dedicated funding source. The program could be added as an employee benefit, although the CMA recognizes that this could be difficult in some cities, particularly those with unions.

### **Private Sector**

The program could be encouraged in the private sector as part of the project development review process for new development. And it could be coupled with other CMA programs such as the guaranteed ride

home program, which offers the insurance that those commuting by an alternative mode are guaranteed a ride home.

The future of new programs as well as ongoing ones is uncertain. Beginning with the 1996-97 program, BAAQMD no longer allows Transportation Fund for Clean Air funds, formerly known as AB 434, to be used for direct subsidies to employees, including parking cash-out programs. Although the city of Pleasanton is continuing with their program without Transportation Fund for Clean Air funding, it will be subject to review and approval by the city council as a part of the annual budget review. Other jurisdictions have indicated their intent to try and find ways to continue the program, but funds were not committed and the programs were eliminated.

### CONGESTION PRICING STRATEGIES

The Alameda County CMA secured funding from MTC, Caltrans and the Federal Highway Administration to conduct a feasibility study for a high-occupancy toll (HOT) lane in the I-680 corridor. The study evaluated a number of pricing options and analyzed a number of key factors such as physical constraints, institutional opportunities and constraints, operational issues and revenue potential. The Study concluded in April 2003, found that a HOT lane would be operationally, physically and financially feasible. AB 2032 (Dutra, 2004) authorized implementation of the I-680 HOT lane (also known as Smart Carpool Lane). The project is currently in the environmental and preliminary design phase. The legislation also approved a second HOT lane in the County. The site has not yet been selected.

In addition to the I-680 three-year demonstration project, the CMA will investigate the following pricing concepts: free transit on Spare the Air days, off-peak transit fare discounts, and parking ticket surcharges by Alameda County jurisdictions with revenues to be used for transit.

### COMPLIANCE AND CONFORMANCE

The CMA must annually monitor conformance with the adopted CMP.<sup>7</sup> Among other requirements, the CMA must determine if each city and the county has adopted and implemented a trip-reduction and travel-demand ordinance. In the early 1990s, a transportation control measure in the region's Clean Air Plan required employers with 100 or more employees to conduct activities to encourage an increase in the use of alternatives to driving alone. BAAQMD oversaw implementation of this program; however, later legislation prohibited mandatory employer-based trip-reduction programs.<sup>8</sup> The CMA therefore cannot require such programs in determining whether cities or the county are in compliance with the CMP.

Local jurisdictions shall have until September 1 of each year to adopt and implement the Required Program, which focused on adoption and implementation of site-design guidelines and adoption and implementation of a capital improvement program.

<sup>7</sup> Government Code Section 65089.3 (a)

<sup>8</sup> Senate Bill 437 (Lewis)

Table 12 — Financial Incentive Participant Summary

	Alameda County	Albany	Oakland	Pleasanton
# Eligible Employees	573	130	400	380
# Participant Before	12 (3%)	7 (5%)	11 (3%)	147 (40%)
# Participants After	108 (19%)	30 (23%)	93 (23%)	130 (34%) special circumstances
Percent Change	16%	18%	20%	-6%
Target Participants	55	10	80	N/A (existing program)

Table 13 — Financial Incentive Program Savings and Costs

	Alameda County	Albany	Oakland	Pleasanton
Commute Trips saved/year	15,925	4,900	14,650	20,625
Average VMT/trip	19	16	21	15
Gallons fuel saved/year	12,103	3,214	12,306	12,375
Fuel costs saved/year (\$1.40/gal.)	\$17,000	\$4,500	\$17,200	\$17,300
Fuel cost savings/persons	\$157	\$150	\$185	\$133
Financial gain/person from program	\$112	\$231	\$222	\$149
Total financial benefit/person	\$268	\$381	\$407	\$282

If the CMA finds that a local jurisdiction has not adopted and implemented the Required Program, it may find the local jurisdiction in "non-conformance." At the time of the finding, the CMA would provide recommendations for corrective actions. If after 90 days the local jurisdiction is still in non-conformance, the CMA is required to provide notice to the California Transportation Commission and the State Controller. The notice includes the reasons for the finding and evidence that the CMA correctly followed procedures for making the determination.

The State Controller would then withhold the non-conforming jurisdiction's increment of subventions from the fuel tax made available by Proposition 111, and the jurisdiction will not be eligible to receive funding for projects through the federal Surface Transportation Program and Congestion Mitigation and Air Quality Program.

If within the 12-month period following the receipt of a notice of non-conformance, the CMA determines that the city or county is in conformance, the withheld Proposition 111 funds will be released. If after the 12-month period the city or county has not conformed, the withheld Proposition 111 funds will be released to the CMA for projects of regional significance included in the CMP or a deficiency plan.

### **LOCAL GOVERNMENT RESPONSIBILITIES**

In order to be found in conformance with the CMP, local jurisdictions must:

- By September 1 of each year, certify to the CMA that it has adopted and implemented site design guidelines that enhance transit/pedestrian access and implemented capital improvements that contribute to congestion management and emissions reduction.
- Local jurisdictions shall have until September 1 of each year to adopt and implement the Required Program.